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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/422,347	10/21/1999	DIRK OOMS	Q056325	5427

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EXAMINER
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LEVITAN, DMITRY

ART UNIT	PAPER NUMBER
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2662

DATE MAILED: 09/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/422,347

Applicant(s)

OOMS ET AL.

Examiner

Dmitry Levitan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 28 June 2005.  
2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-7,9 and 11-20 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-7,9 and 11-20 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 28 June 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_.

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Amendment, filed 06/28/05 has been entered. Claims 1-7, 9 and 11-20 remain pending.

***Response to Amendment***

The amendment filed 06/28/05 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: Fig. 2 and amendments to the specification.

Applicant is required to cancel the new matter in the reply to this Office Action.

***Drawings***

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the detector that detects a common prefix in at least two different final destination addresses from a list of destination addresses, generator that generates a suffix list for final destination addresses and an adder that adds said suffix list to said common prefix list to create a compound destination address, an addressing device to address routing table memory via compound address having the same format as destination compound address, the generator and adder iteratively compressing the list of destination addresses must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing

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should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 103***

1. Claims 1-7, 9 and 11-20 are rejected under 35 U.S.C. 103 as being unpatentable over Boivie (US 6,502,140).
2. Regarding claims 1 and 7, Boivie teaches a device and method for compressing a list of destination addresses for a multicast message, wherein each destination address in said list represents a different destination host (source node A sends multicast transmission to destination nodes as shown on Fig. 1 and 3:2-10), comprising:  
  
Detecting a common prefix in at least two different final destination addresses from said list of destination addresses (detecting R1R2 as common prefix for final addresses R1R2C and R1R2D in step 1 4:30-46),  
  
Generating a suffix list for final destination addresses that are detected to have a common prefix, wherein said suffix list represents the non identical portions of said destination addresses

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detected to have a common prefix (combining last portions of the final destination addresses R1R2C and R1R2D into (C D) in step 2 4:50-55), and

Adding said suffix list to said common prefix to create a compound destination address consisting of compressed final destination addresses (second part of step 2, producing a single element R1R2(CD) 4:55-58, third final destination R1B was dropped for clarity).

Claims 1 and 7 and Boivie specify the same technique of compressing destination addresses to reduce the traffic in a process of multicasting data packets. The only difference between the claims and Bovie lies in the type of addressing used, in the claims the final destination addresses do not include references to the intermediate node, while Bovie does. It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the compression technique of Bovie with any addressing scheme because it would have the same benefit, reduction of traffic.

In addition regarding claim 1, Boivie teaches implementing the disclosed above method in a device (node unit 100 on Fig. 2 as a programmed computer apparatus 6:48-62).

3. Regarding claims 2, 3 and 4, Boivie teaches the destination address comprising IP addresses (the network is operated under IP 2:26-34) and other previously compressed compound destination addresses (previously compressed R1R2(CD) address on 4:55 is combined into a single element on 4:56-58).

4. Regarding claims 5 and 6, Boivie teaches the device incorporated into a host or a router of communication network with multicast capabilities (host computers or routers using the device on Fig. 1 and 2:51-61 with multicast capabilities 2:62-67).

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5. Regarding claim 19, Boivie teaches a host generating multicast packets (host computer 2:51-67), and a router (routers 2:51-67) both comprising the devices operating as disclosed in claim 1 rejection above.

6. Regarding claim 20, Boivie teaches a router comprising a compression device with generating suffixes and adding them to prefixes as described above in the claim 1 rejection, implemented as a programmed computer apparatus.

7. Regarding claim 9, Boivie teaches a router comprising a routing table memory (inherently part of the system, because all routers comprise a routing table memory) and an addressing device to address the routing table memory via compound address having the same format as said compound destination address (inherently part of the system, because the router addressing device has to address the memory via compound address format, as shown in example 4:30-60, incorporated through the system).

8. Regarding claims 17 and 18, Boivie teaches iteratively compressing/generating suffix, prefix and adding them, for the list of final destinations (performing steps 1 and 2 for three destinations B, C and D on 4:34-60).

9. Regarding claims 11-16, Boivie substantially teaches all the limitations of claims 1 and 7. Boivie does not teach detecting octet, nibble and bit aligned prefixes.

Official notice is taken that detecting octet, nibble and bit aligned prefixes is well known in the art to detect addresses with different lengths.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to add detecting octet, nibble or bit aligned prefixes to the system of Boivie to improve the system operation with addresses with different lengths.

*Response to Arguments*

10. Applicant's arguments with respect to claim 1-7, 9 and 11-20 have been considered but they are not persuasive.

On pages 11-13 of the Response, Applicant argues that it is not obvious to modify Boivie to drop intermediate nodes from the final destination address and R1 and R2 are essential for Boivie.

Examiner respectfully disagrees.

Examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, routing, as implemented in the Internet, does not specify the intermediate nodes for the delivery of a packet to the destination node. Internet protocols TCP/IP do not need intermediate nodes to deliver packets to the destination address. The destination address, contained in the headers of the packets, is essential for the packets delivery.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to drop references to the intermediate nodes in the compression method of Boivie to reduce traffic, as the headers become smaller.

Applicant has not challenge the Official Notice taken by Examiner in the last Office Action. Therefore, the presentation of references to substantiate the Official Notice is not deemed necessary. The examiner's taking of Official Notice has been maintained.

*Conclusion*

11. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dmitry Levitan whose telephone number is (571) 272-3093. The examiner can normally be reached on 8:30 to 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on (571) 272-3088. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Dmitry Levitan  
Patent Examiner.  
08/24/05



**HANH NGUYEN**  
**PRIMARY EXAMINER**